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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/626,835
Filing Date: July 24, 2003
Appellant(s): BOHANNON ET AL.

Kevin M. Mason
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 13 April 2009 appealing from the Office action mailed 7 May 2008.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

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(8) Evidence Relied Upon

6,643,652	Helgeson	01-2001
6,785,673	Fernandez	12-2001
2002/0123993	Chau et al	11-2000
2004/0010754	Jones	05-2003
6,772,165	O'Carroll	11-2002
6,826,568	Bernstein et al	12-2001
6,654,734	Mani et al	08-2000

W3C, "XSL Transformations (XSLT)," Version 1.0, published on November 16, 1999.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 10 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Helgeson (U.S. Patent No. 6,643, 652, hereinafter referred to as HELGESON), filed on January 12, 2001, published on June 13, 2002, and issued on November 4, 2003, in view of Fernandez (U.S. Patent No. 6,785,673, hereinafter referred to as FERNANDEZ), filed on December 28, 2001, and issued on August 31, 2004.
3. **As per independent claim 1**, HELGESON, in combination with FERNANDEZ, discloses:

A method for exporting at least a portion of a relational database to an XML document, comprising the steps of:

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obtaining an initial view query that defines an XML view on said relational database {See FERNANDEZ, C2:L65-67, wherein this reads over "a general, dynamic, and efficient tool for viewing and querying relational data in XML"; and C3:L23-54, wherein this reads over "an algorithm is provided for efficiently constructing materialized XML views of relational databases"} and an XSLT stylesheet specifying at least one transformation {See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"};

modifying said initial view query to account for an effect of said at least one transformation {See HELGESON, col. 49, lines 46-53, wherein this reads over "Style Sheet Control System 810 contains mechanisms to manipulate various kinds of display style sheets . . . and also can allow vendors/developers to modify . . . the mechanisms"; and col. 73, line 29 – col. 74, line 24, wherein this reads over "wdk taglibrary . . . includes tags for . . . managing the input and output parameters to the model page"}; and

applying said modified view query to said relational database to obtain said XML document {See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries)".

The combination of inventions disclosed in HELGESON and FERNANDEZ would disclose an invention which would comprise of a method wherein an initial view query is modified and applied to a relational database such that the application of the modified view query would result in the obtaining of an XML document. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in order to obtain an XML document according to the transformation specified by an XSLT stylesheet.

4. **As per independent claim 10**, HELGESON, in combination with FERNANDEZ, discloses:

A method for generating a modified view query of an XML document, comprising the step of:

composing an XSLT stylesheet {See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"} with an XML view on a relational database to produce said modified view query {See FERNANDEZ, C2:L65-67, wherein this reads over "a general, dynamic, and efficient tool for viewing and querying relational data in XML"; and C3:L23-54, wherein this reads over "an algorithm is provided for efficiently constructing materialized XML views of relational databases"}.

The combination of inventions disclosed in HELGESON and FERNANDEZ would disclose an invention which would comprise of a method wherein an initial view query is modified and applied to a

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relational database such that the application of the modified view query would result in the obtaining of an XML document. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in order to obtain an XML document according to the transformation specified by an XSLT stylesheet.

5. **As per independent claim 24**, HELGESON, in combination with FERNANDEZ, discloses:

A system for exporting at least a portion of a relational database to an XML document, comprising:

a memory *{See HELGESON, col. 3, lines 11-14, wherein this reads over "memory storing data"};*
and

at least one processor, coupled to the memory *{See HELGESON, col. 3, lines 11-14, wherein this reads over "a processor coupled to the memory"};* operative to:

obtain an initial view query that defines an XML view on a relational database *{See FERNANDEZ, C2:L65-67, wherein this reads over "a general, dynamic, and efficient tool for viewing and querying relational data in XML"; and C3:L23-54, wherein this reads over "an algorithm is provided for efficiently constructing materialized XML views of relational databases"} and an XSLT stylesheet specifying at least one transformation {See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"};*

modify said initial view query to account for an effect of said at least one transformation *{See HELGESON, col. 49, lines 46-53, wherein this reads over "Style Sheet Control System 810 contains mechanisms to manipulate various kinds of display style sheets . . . and also can allow vendors/developers to modify . . . the mechanisms"; and col. 73, line 29 – col. 74, line 24, wherein this reads over "wdk taglibrary . . . includes tags for . . . managing the input and output parameters to the model page"};* and

apply said modified view query to said relational database to obtain said XML document *{See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries)".}*

The combination of inventions disclosed in HELGESON and FERNANDEZ would disclose an invention which would comprise of a method wherein an initial view query is modified and applied to a relational database such that the application of the modified view query would result in the obtaining of an XML document. Therefore, it would have been obvious to one of ordinary skill in the art at the time

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the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in order to obtain an XML document according to the transformation specified by an XSLT stylesheet.

6. **Claims 2 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of FERNANDEZ, and in further view of Chau et al (USPGPUB 2002/0123993, hereinafter referred to as CHAU), filed on November 29, 2000, and published on September 5, 2002.

HELGESON and FERNANDEZ disclose the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method wherein the XSLT stylesheet is based on a restrictive subset of XSLT (claims 2 and 25).

7. **As per dependent claims 2 and 25**, HELGESON, in combination with FERNANDEZ and CHAU, discloses a method wherein said XSLT stylesheet is based on a restrictive subset of XSLT *{See CHAU, Para. 0096, wherein this reads over "XML System uses a subset of Extensive Stylesheet Language Transformation (XSLT) . . . to identify XML elements or attributes"; and Para.0693, wherein "XML System adapts the notation used in Xpath and uses a subset of it to defined the XML document structure" reads on "the match pattern of a template rule, match(r.sub.i), is a pattern and is essentially a subset of XPATH path expressions"}*.

The combination of inventions disclosed in HELGESON, FERNANDEZ, and CHAU would disclose an invention which would comprise of a method wherein the XSLT stylesheet specifying the transformation would be based on a restrictive subset of XSLT. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON and FERNANDEZ by combining it with the invention disclosed by CHAU.

One of ordinary skill in the art would have been motivated to do this modification in order to cover a reasonable variety of XSLT stylesheets applied to XML-publishing views.

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8. **Claims 3, 11, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of FERNANDEZ, and in further view of Jones (USPGPUB 2004/0010754, hereinafter referred to as JONES), filed on May 2, 2003, and published on January 15, 2004, and in further view of O'Carroll (U.S. Patent No. 6,772,165, hereinafter referred to as O'CARROLL), filed on November 15, 2002, and issued on August 3, 2004.

HELGESON and FERNANDEZ disclose the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method comprising the steps of generating graphs representing processing done by an XSLT stylesheet, and combining the graphs by matching pairs of nodes thereafter (claims 3, 11, and 26).

9. **As per dependent claims 3, 11, and 26**, HELGESON, in combination with FERNANDEZ, JONES and O'CARROLL, discloses a method comprising the steps of generating a first graph representing processing done by an XSLT stylesheet *{See JONES, Para. 0029, wherein this reads over "Type analysis for XSLT is therefore a special case of type analysis for Xpath. . . . [A] tree of nodes (Xpath Tree 600 in FIG.#) is used to represent each Xpath expression after it has been parsed from its string form"}*, and combining the first graph with a second graph representing the initial view query by matching pairs of nodes from the first and second graphs *{See O'CARROLL, Figs. 1 and 9-11; col. 3, lines 40-50, wherein this reads over "merging the source trees to provide a target tree . . . [by] identifying matching nodes (X, Y, Z) in at least two source trees; inserting a single node corresponding to the matching nodes in the target tree"}*.

The combination of inventions disclosed in HELGESON, FERNANDEZ, JONES, and O'CARROLL would disclose an invention which would comprise of a method wherein a first graph, specifically a tree, representing processing done by an XSLT stylesheet is generated, and the source trees (i.e. the first graph and second graph) are merged by identifying and matching pairs of nodes in the graphs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

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made to modify the above invention suggested by HELGESON and FERNANDEZ by combining it with the invention disclosed by JONES and O'CARROLL.

One of ordinary skill in the art would have been motivated to do this modification in so that the combined graph may be pruned to remove unnecessary nodes and modified to produce a modified view query that handles formatting instructions

10. **Claims 6, 15 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of FERNANDEZ, JONES and of O'CARROLL, in further view of Bernstein et al (U.S. Patent No. 6,826,568, hereinafter referred to as BERNSTEIN), filed on December 20, 2001, and issued on November 30, 2004, and in further view of Mani et al (U.S. Patent No. 6,654,734, hereinafter referred to as MANI), filed on August 30, 2000, and issued on November 25, 2003.

HELGESON and FERNANDEZ teach the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method for generating a modified view query of an XML document (claim 19).

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method wherein the combined graph is pruned to remove unnecessary nodes, and is modified to produce a modified view query that handles formatting instructions (claims 6, 15, and 29).

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method wherein formatting instructions are expressed as output tag trees for each node in a traverse view query (claims 8, 17, and 23)

11. **As per dependent claims 6, 8, 15, 17, 23, and 29**, HELGESON, in combination with FERNANDEZ, JONES, O'CARROLL, BERNSTEIN and MANI, discloses a method wherein the combined graph is pruned to remove unnecessary nodes *{See BERNSTEIN, col. 19, line 63 – col. 20, lines 1, wherein this reads over "a pruning leaves process is provided . . . [because] leaves increase the computation time, even though many of them are irrelevant for matching"}*, and is modified to produce a

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modified view query that handles formatting instructions *{See MANI, col. 4, lines 37-38, wherein this reads over "Tags: Codes (as in HTML or XML) that give instructions for formatting"}.*

The combination of inventions disclosed in HELGESON, FERNANDEZ, JONES, O'CARROLL, BERNSTEIN, and MANI would disclose an invention which would comprise of a method wherein the leaves of the combined graph are pruned, and the combined graph is modified to produce a modified view query that handles formatting instructions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by FERNANDEZ, JONES, O'CARROLL, BERNSTEIN, and MANI.

One of ordinary skill in the art would have been motivated to do this modification in so that the computation time may be decreased through pruning, and a modified view query may be later applied to the relational database to obtain the XML document.

12. **As per dependent claims 8, 17 and 23**, HELGESON, in combination with JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ, discloses a method wherein said formatting instructions are expressed as output tag trees for each node *{See O'CARROLL, Figure 2(b); and col. 4, lines 45-47, wherein this reads over "a parsing step 6 in which the syntax of the source document 2 is parsed to generate a hierarchical structure tree 7 of nodes"} in said traverse view query {See FERNANDEZ, Figure 3; and col. 6, lines 51-60, wherein this reads over "a view query that defines the XML virtual view of the database, . . . [specifically] an RXL query"}}, and further comprising the step of combining said output tag trees and said traverse view query to generate said modified view query *{See FERNANDEZ, col. 6, line 65 – col. 7, line 4, wherein this reads over "the view query and the user query can be passed to the query composer module 102 . . . which computes the composition and produces a new view query"}.**

The combination of inventions disclosed in HELGESON, JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ would disclose an invention which would comprise of a method wherein formatting instructions are expressed as output tag trees for each node in a traverse view query, and wherein the

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output tag trees and the traverse view query are combined to generate a modified view query.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in so that a modified view query may be first generated using output tag trees and a traverse view query, and later applied to the relational database to obtain the XML document.

13. **Claims 9, 18, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of FERNANDEZ, and in further view of W3C ("XSL Transformations (XSLT), Version 1.0, hereinafter referred to as W3C), published on November 16, 1999.

HELGESON and FERNANDEZ teach the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON and FERNANDEZ differ from the claimed invention in that they fail to disclose a method wherein the obtained XML document is similar to a second XML document produced by applying a XSLT stylesheet on the XML document produced by the initial view query (claims 9, 18, and 32).

14. **As per dependent claims 9, 18, and 32**, HELGESON, in combination with FERNANDEZ and W3C, discloses a method wherein an obtained XML document would be similar to a second XML document produced by applying the XSLT stylesheet *{See W3C, p. 3-4, wherein this reads over "[a] transformation expressed in XSLT describes rules for transforming a source tree into a result tree . . . A pattern is matched against elements in the source tree . . . A style sheet contains a set of template rules. A template rule has two parts: a pattern which is matched against nodes in the source tree and a template which can be instantiated to form part of the result tree"}.*

The combination of inventions disclosed in HELGESON, FERNANDEZ, and W3C would disclose an invention which would comprise of a method wherein applying the XSLT stylesheet to a source document, particularly XML documents, would result in those documents being similar in structure and

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format. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by FERNANDEZ and W3C.

One of ordinary skill in the art would have been motivated to do this modification in so that a modified view query may be first generated using output tag trees and a traverse view query, and later applied to the relational database to obtain the XML document.

(10) Response to Argument

a. Rejections under 35 U.S.C. 103

Appellant asserts the argument that "Helgeson does not disclose or suggest view queries." See Appeal Brief, page 5. The Examiner respectfully disagrees. While Appellant further asserts that a "view query" specifies a mapping between the relational tables and the resulting XML document," it is noted that the features upon which Appellant relies (i.e., the mapping between tables and a XML document) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Additionally, in response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the prosecution of the instant application, the Examiner notes that the combination of Helgeson and Fernandez was applied to read upon the recited claim limitations. Specifically, wherein Fernandez discloses XML view-definition queries, which is utilized to facilitate the conversion of relational data into XML, it would have been obvious to one of ordinary skill in the art that said "XML view-definition queries" would indeed read upon the recited "view query." See Fernandez, column 3, lines 23-37.

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Furthermore, it is noted that the Appellant has also affirmed that said XML view-definition query would be considered a view query in view of Appellant's invention (i.e. "[t]here is no disclosure or suggestion that this view query is modified at all") except for failing to "account for an effect of said at least one transformation." See Appeal Brief, pages 5-6. Accordingly, Appellant's affirmation is duly noted and the claimed exception (i.e. failing to "account for an effect of said at least one transformation") is addressed below.

Secondly, Appellant asserts the argument that Helgeson and Fernandez fail to disclose "modifying said initial view query to account for an effect of said at least one transformation." See Appeal Brief, page 5. The Examiner respectfully disagrees. Appellant is directed to Fernandez which discloses "a new query language, RXL, for mapping relational sources to XML views." See Fernandez, column 3, lines 11-22. That is, Fernandez discloses an invention wherein "an XML view of the relational database may be defined using a declarative query language called RXL (Relation to XML Transformation Language)." See Fernandez, column 4, lines 49-63. Additionally, it is noted that RXL is a declarative-transformation language which "has much of the power of SQL queries and can express joins, selection conditions, aggregates, and nested queries." See Fernandez, column 4, line 64 - column 5, line 1.

Accordingly, wherein a query composer module "takes a user query and the RXL view query and generates a new RXL query," it would have been obvious to one ordinary skill in the art that Fernandez would indeed disclose "modifying said initial view query to account for an effect of said at least one transformation." See Fernandez, column 12, lines 17-20. That is, an initial RXL query (i.e. an initial view query) may be used to generate a new RXL query (i.e. modifying said initial view query) by combining said initial RXL query with a user query (i.e. a transformation). Furthermore, wherein a the user query, or the XML-QL user query, is dependent on an XML template which defines the XML document, any transformation to said XML document would result in the reflection of said transformation within the XML-QL user query. Accordingly, the integration of the XML-QL user query comprising a XML template transformation

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(i.e. an XSLT stylesheet) would lead to the claimed feature of "modifying said initial view query to account for an effect of said at least one transformation."

Lastly, Appellant asserts the argument that Helgeson and Fernandez fail to disclose or suggest "applying said modified view query to said relational database to obtain said XML document." See Appeal Brief, page 6. The Examiner respectfully disagrees in that the claim limitation as recited only requires the application of the modified view query to a relational database. The requirement that the application be used "to obtain said XML document" is an intended use which for purposes of examination has not been provided patentable weight. Nevertheless, the Examiner still notes that Fernandez discloses that the RXL query is translated into a SQL query which is then "sent to the relational engine RDBMS 110 and the resulting tuple stream is fed into the XML generator 106, which produces the XML output." See Fernandez, col. 13, lines 5-32. Accordingly, it is noted that Fernandez indeed discloses a method wherein the view query is applied to the relational database "to obtain said XML document."

For the reasons set forth above, the rejections under 35 U.S.C. 103 are maintained.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Paul Kim/

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